



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,950	07/12/2003	Mark Crockett	006051 USA P 01/SMO/SMO	4489

7590 07/05/2005

PATENT COUNSEL
APPLIED MATERIALS, INC.
Legal Affairs Department
P.O. BOX 450A
Santa Clara, CA 95052

EXAMINER

LE, HUYEN D

ART UNIT	PAPER NUMBER
----------	--------------

3751

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,950

Applicant(s)

CROCKETT ET AL.

Examiner

Huyen Le

Art Unit

3751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) 37-41 and 56-68 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 and 42-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/30/03 & 12/8/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I invention, Claims 1-36 and 42-55 in the reply filed on 04/06/2005 is acknowledged.
2. Claims 37-41 and 56-68 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure pertains," "The disclosure defined by this invention," "The invention pertains," etc.

4. This application filed under former 37 CFR 1.60 lacks the necessary reference to the prior application. A statement reading "This is a CIP of Application No. 10/328,135 filed 12/20/2002, now U.S. Patent No. 6,736,370)." should be entered following the title of the invention or as the first sentence of the specification. Also, the current status of all nonprovisional parent applications referenced should be included.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6-9, 25, 26, 44, 45, 53-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 3751

7. Claims 6-9, 25, 26, 44, 45, 53-55 contain the trademark/trade name HASTELLOY or ELGILOY. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a material that makes of a layer and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 12- 22, 29-32, 35, 36, 42, 47-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Morel et al (5,094,268).

The Morel et al reference discloses a fluid handling structure comprising an assembly 3 of adhered metal layers (col. 3, lines13-15), wherein a plurality of the adhered metal layers is patterned to include at least one shaped opening 7 which

Art Unit: 3751

passes through the metal layers 3 , so that upon adherence of the plurality of layers3 a fluid handling structure is formed.

Regarding claim 2, a portion of the adhered metal layers is adhered by diffusion bonding (col.3, lines 16-17).

Regarding claim 3, the adhered metal layers are chemically etched (col. 3, lines 16-17).

Regarding claims 12 and 30, the through hole is aligned with a through-hole in an adjacent layer.

Regarding claims 13 and 31, one layer of 40 includes at least one through-hole which is adapted for mounting one component device 50.

Regarding claims 14 and 15, the structure is a part of a fluid distribution network for use in semiconductor processing.

Regarding claims 16 and 17, the structure is a gas distribution structure for use in semiconductor processing.

Regarding claims 18 and 19, the structure is an integrated part of a network architecture including of fluid handling component devices 2.

Regarding claims 20 and 21, the fluid handling structure is an integrated part of a network including a combination of fluid flow channels and component devices, and the component devices are at least partially integrated into a layered substrate.

Regarding claim 35, the network architecture includes a plurality of fluid handling structures 2.

Art Unit: 3751

Regarding claim 36, at least a portion of the fluid handling structure 2 are fluid distribution assemblies attached to a manifold 3.

Regarding claim 42, the method of preparing a gas distribution assembly is inherently performed during the normal manufacture of the assembly.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4-9, 23-27, 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morel et al (5,094,268).

Although the Morel et al reference does not specifically disclose that the metal layers of the manifold 40 are made of stainless steel or a corrosion-resistant alloy, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select a metal, such as, stainless steel or a corrosion-resistant alloy, for the plate, since selecting a known material on the basis of its suitability for the intended use is a mere matter of obvious design choice. In re Leshin, 125 USPQ 416.

12. Claims 10, 11, 28, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morel et al (5,094,268).

Although the Morel et al reference does not explicitly disclose the thickness of metal layer it would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 3751

invention was made to select a thickness of metal layer within a certain range to best fit a particular plate design and to optimize the performance. See *In re Aller*, 105 USPQ 233, using the optimum or workable ranges involves only routine skill in the art.

13. Claims 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morel et al (5,094,268).

Although Morel et al reference does not specifically disclose as to what temperature, pressure and time the diffusion bonding of the metal layers is performed at, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the diffusion bonding of the metal layers at a certain range of temperature to best fit a particular regulator design and to optimize the performance. See *In re Aller*, 105 USPQ 233, using the optimum or workable ranges involves only routine skill in the art.

14. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morel et al (5,094,268) in view of Fenwick et al (4,570,675).

Although Morel et al reference does not disclose that at least component device is diffusion bonded with the metal layers, diffusion bonding is known in art for attaching or welding the components together. Attention is further directed to Fenwick et al reference which teaches components 604A integrally formed with metal-layered ring 601 by diffusion bonding or welding.

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to attach one of the hydraulic components 2 to the plate 3 by

Art Unit: 3751

diffusion welding in view of the Fenwich et al reference for securely attaching the components to a structure and reducing loose parts and leakage.

Conclusion


15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. White et al, Craig et al, Johnson et al, Bauer et al, Deininger and Schulze disclose fluid handling structures having metal layers adhered to each other by diffusion bonding to form openings and channels for handling fluids.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Le whose telephone number is 571-272-4890. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on 571-272-4835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HL
June 16, 2005


Huyen Le
Examiner
Art Unit 3751